

**What is claimed is:**

1. A mobile communications service providing system in which location registration request information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile node via the server system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, wherein:

the home agent and the foreign agent comprise a controlling unit determining a transfer destination of a packet;

the server system comprises an extracting unit extracting a service profile corresponding to the mobile node from a database for managing a service profile which includes information for providing a service requested by the mobile node,

a service managing unit editing the service profile extracted by said extracting unit into a format that is available to said controlling unit, and

25 a distributing unit distributing the service

profile edited by said service managing unit to the home agent and the foreign agent, and

the home agent and the foreign agent provide a service by using said controlling unit according to the  
5 service profile distributed from the server system.

2. The system according to claim 1, wherein  
the server system does not distribute a service  
profile to the home agent and the foreign agent, if the  
10 mobile node does not request a value-added service, and  
the home agent and the foreign agent provide a fundamental service according to information that the home agent and the foreign agent themselves generate.

15 3. The system according to claim 1, wherein:  
an address range available for a predetermined  
service is specified beforehand;  
a service profile including information  
representing the address range which is specified  
20 beforehand is set in the home agent and the foreign agent  
as a condition for extracting a corresponding packet  
from among received packets; and  
the server system assigns an address within the  
address range to the mobile node that requests the  
25 predetermined service.

4. The system according to claim 1, wherein:  
the server system comprises a home server device  
which has a right to access the database in order to  
5 extract the service profile for the mobile node, and  
a foreign server device which does not have such an access  
right; and

the home server device distributes the service  
profile to the home agent and the foreign server device,  
10 and the foreign server device forwards the service  
profile to the foreign agent.

5. The system according to claim 1, wherein:  
the server system comprises a home server device  
15 which has a right to access the database in order to  
extract the service profile for the mobile node, and  
a foreign server device which does not have such an access  
right; and

the home server device distributes the service  
20 profile to the foreign server device, and the foreign  
server device forwards the service profile to the home  
agent and the foreign agent.

6. The system according to claim 1, wherein:  
25 the server system comprises a home server device

which has a right to access the database in order to extract the service profile for the mobile node, and a foreign server device which does not have such an access right;

5       the mobile node notifies the home agent of location registration request information via a second foreign agent when moving from a communication area of a first foreign agent to a communication area of the second foreign agent;

10      the home agent updates information for routing a packet so that a packet addressed to the mobile node is transferred to the second foreign agent; and  
                the foreign server device distributes the service profile to the second foreign agent.

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7.      The system according to claim 1, wherein:  
                the server system comprises a home server device which has a right to access the database in order to extract the service profile for the mobile node, and  
20     first and second foreign server devices which do not have such an access right;

                the mobile node notifies the home agent of location registration request information via a second foreign agent, the second foreign server device, and the home  
25     server device when moving from a communication area of

a first foreign agent managed by the first foreign server device to a communication area of the second foreign agent managed by the second foreign server device;

5 the home agent updates information for routing a packet so that a packet addressed to the mobile node is transferred to the second foreign agent; and

the home server device distributes the service profile to the second foreign server device, which then forwards the service profile to the second foreign agent.

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8. The system according to claim 1, wherein:

the server system comprises a home server device which has a right to access the database in order to extract a service profile for the mobile node, and  
15 first and second foreign server devices which do not have such an access right;

the mobile node notifies the home agent of location registration request information via a second foreign agent, the second foreign server device, the home server device, and the first foreign server device when moving from a communication area of a first foreign agent managed by the first foreign server device to a communication area of the second foreign agent managed by the second foreign server device;

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the home agent updates information for routing a

packet so that a packet addressed to the mobile node  
is transferred to the second foreign agent; and

the home server device distributes the service  
profile to the second foreign server device, which then  
5 forwards the service profile to the second foreign agent.

9. The system according to claim 1, wherein:  
upon receipt of the packet addressed to the mobile  
node from a correspondent node, the home agent  
10 distributes to the correspondent node a service profile  
for extracting a packet in which the mobile node is set  
as a destination; and

the correspondent node generates information for  
transmitting to the foreign agent a packet which is  
15 extracted according to the distributed service profile.

10. The system according to claim 1, wherein  
when providing a service for transferring to an  
arbitrary mobile node among a plurality of mobile nodes  
20 a packet with a virtual address assigned to the plurality  
of mobile nodes as a destination:

an address proxy server receiving the packet with  
the virtual address is arranged; and

the server system distributes to said address proxy  
25 server a service profile for extracting the packet with

the virtual address is assigned and transferring the extracted packet to the particular mobile node among the plurality of mobile nodes, and also distributes to a foreign agent a service profile for transferring to 5 the particular mobile node a packet addressed to the foreign agent which accommodates the particular mobile node.

11. A mobile communications service providing  
10 method with which location registration request information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile 15 node via the server system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, wherein:

20 the home agent and the foreign agent comprise a controlling unit determining a transfer destination of a packet, the method comprising:

extracting, by the server system, a service profile corresponding to the mobile node from a database for 25 managing a service profile which includes information

for providing a service requested by the mobile node; editing, by the server system, the extracted service profile into a format that is available to the controlling unit; and

- 5       distributing the edited service profile from the server system to the home agent and the foreign agent, and

the home agent and the foreign agent provide a service by using the controlling unit according to the  
10 service profile distributed from the server system.

12. A mobile communications service providing method with which location registration request information is transmitted from a mobile node to a home  
15 agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile node via the server system and the foreign agent, so that a location of the mobile node is registered to the  
20 home agent and the foreign agent, and a mobile communications service is provided based on the registration, the method comprising:

extracting, by the server system, a service profile corresponding to the mobile node from a database for  
25 managing a service profile which includes information

for providing a service requested by the mobile node; editing, by the server system, the extracted service profile into a format that is not dependent on a service type; and

5       distributing the edited service profile from the server system to the home agent and the foreign agent, and

the home agent and the foreign agent provide a service according to the service profile distributed  
10 from the server system.

13. A mobile communications service providing method used in a system which comprises a database for managing a service profile which includes information  
15 for providing a service requested by a mobile node, a plurality of agents which can respectively accommodate the mobile node, and a server which extracts a service profile for the mobile node and distributes the extracted service profile to the agents which accommodate the  
20 mobile node, wherein:

the plurality of agents respectively comprise a controlling unit determining a transfer destination of a packet;

the server edits the service profile extracted from  
25 the database into a format that is available to the

controlling unit arranged in the agents, and distributes the edited service profile to the agents which accommodate the mobile node; and

the agents which accommodate the mobile node  
5 provide a service by using the controlling unit according to the service profile edited by the server.

14. A server system used in a mobile communications service providing system in which  
10 location registration request information is transmitted from a mobile node to a home agent via a foreign agent and a server system, and information in reply to the location registration request information is returned from the home agent to the mobile node via  
15 the sever system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile communications service is provided based on the registration, said server system comprising:

20 an extracting unit extracting a service profile for the mobile node from a database for managing a service profile which includes information for providing a service requested by a mobile node;

25 a service managing unit editing the service profile extracted by said extracting unit into a format that

is available to a controlling unit for determining a transfer destination of a packet by the home agent and the foreign agent; and

5       a distributing unit distributing the edited service profile to the home agent and the foreign agent so that the home agent and the foreign agent provide a service by using the controlling unit according to the service profile edited by said service managing unit.

10       15. An agent device as a home agent or a foreign agent for use in a mobile communications service providing system in which location registration request information is transmitted from a mobile node to the home agent via the foreign agent and a server system, 15 and information in reply to the location registration request information is returned from the home agent to the mobile node via the server system and the foreign agent, so that a location of the mobile node is registered to the home agent and the foreign agent, and a mobile 20 communications service is provided based on the registration, said agent comprising:

      a service-independent unit determining a processing method for a received packet according to header information of the received packet;

25       an individual service controlling unit using said

service-independent unit according to a service profile  
edited into a format that is available to said  
service-independent unit by the server system; and  
a packet controlling unit processing a packet  
5 according to a processing result of use of said  
service-independent unit.